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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/030,827

03/05/2002

Erling Hammer

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27162

7590

04/29/2003

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EXAMINER

FRANK, RODNEY T

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 04/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/030,827

Applicant(s)

HAMMER, ERLING

Examiner

Rodney T. Frank

Art Unit

2856

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 1-11, 18, and 19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected method and device for measuring interphase liquids, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 8.

### *Claim Objections*

2. Claims 12-17 are objected to because of the following informalities: All instances of "characterized in that" or "characterized by" are underlined, and they should not be. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is directed to a method in accordance to claims 12-13, where as the methods in claims 12 and 13 are different. The examiner believes that the limitations should have been in accordance with claim 12 or 13. Appropriate clarification or correction is needed.
5. Claim 17 recites the limitation "the unit". There is insufficient antecedent basis for this limitation in the claim.
6. Regarding claim 17, the word "means" is preceded by the word(s) "(tube/duct) through which the fluid is flowing" in an attempt to use a "means" clause to recite a claim element as a means for performing a specified function. However, since no function is specified by the word(s)

Art Unit: 2856

preceding "means," it is impossible to determine the equivalents of the element, as required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App. 1967).

7. Claim 17 recites the limitation "means through which the fluid is flowing". There is insufficient antecedent basis for this limitation in the claim.

*Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harper (U.S. Patent Number 5,389,883). Harper discloses that in order to measure the relative proportions of oil, water and gas passing along a pipe, the pipe is passed through the coils of a number of coil resonators having different resonant frequencies. By measuring changes in the resonant frequencies of the coil resonators the proportions of oil, water and gas in the flow through the pipe can be calculated (see abstract).

In reference to claim 12, Harper discloses, in reference to figure 1, a method for measuring concentrations/parts in a flowing multiphase mixture characterized in that an excitation coil (1) and a detector (4) are arranged enclosingly around a body, such as a tube (5) which carries a multiphase volume, the excitation coil is applied an alternating voltage and the resulting detector voltage registered in the detector (4) is compared to calibration values of the system to determine the composition of the multiphase liquid in the pipe (see the description of the device in figure 1 starting in column 2 line 22 and ending in column 3 line 19).

Art Unit: 2856

In reference to claim 13, Harper discloses, in reference to figures 3 and 4, a method for measuring concentrations/parts in a flowing multiphase mixture characterized in the fluid in the pipe is measured by application of two excitation coils (1) with respective different resonant frequencies and a detector (4) and the induced voltage in the detector, which is a sum of the induced voltage from the magnetic fields from the two excitation coils, and comprising two frequencies, is applied to estimate the independent parameters (see the description of the device in figures 3 and 4 starting in column 3 line 22 and ending in column 4 line 48).

In reference to claim 14, it is disclosed in the abstract that by measuring changes in the resonant frequencies of the coil resonators the proportions of oil, water and gas in the flow through the pipe can be calculated.

In reference to claim 15, the device for measuring concentrations/parts of a multiphase mixture, utilizing the method characterized in claim 12, is disclosed.

In reference to claim 16, the device for measuring concentrations/parts of a multiphase mixture, utilizing the method characterized in claim 13, is disclosed.

In reference to claim 17, figure 3 shows that the detector (4) is arranged between the two excitation coils (1) and the coils and detector are all mounted inside a coat (2), and the unit surrounds the tube/duct (5) through which fluid is flowing.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney T. Frank whose telephone number is (703) 306-5717. The examiner can normally be reached on M-F 9am -5:30p.m..


Art Unit: 2856

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

RTF

April 25, 2003

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800